

WHAT IS CLAIMED IS:

1. An isolated or recombinant polynucleotide encoding an antigenic polypeptide comprising:

- 5 a) at least 17 contiguous amino acids from the mature polypeptide from SEQ ID NO: 2;
- b) at least 17 contiguous amino acids from the mature polypeptide from SEQ ID NO: 4;
- c) at least 17 contiguous amino acids from the mature polypeptide from SEQ ID NO: 6;
- 10 d) at least 17 contiguous amino acids from the mature polypeptide from SEQ ID NO: 8;
- e) at least 17 contiguous amino acids from the mature polypeptide from SEQ ID NO: 13;
- 15 f) at least 17 contiguous amino acids from the polypeptide from SEQ ID NO: 15;
- g) at least 17 contiguous amino acids from the polypeptide from SEQ ID NO: 17; or
- h) at least 17 contiguous amino acids from the polypeptide from SEQ ID NO: 19.

2. The polynucleotide of Claim 1, encoding all of the polypeptide of:

- 25 a) mature SEQ ID NO: 2;
- b) mature SEQ ID NO: 4;
- c) mature SEQ ID NO: 6;
- d) mature SEQ ID NO: 8;
- e) mature SEQ ID NO: 13;
- f) SEQ ID NO: 15;
- 30 g) SEQ ID NO: 17; or
- h) SEQ ID NO: 19.

3. The polynucleotide of Claim 1, which hybridizes at 55° C, less than 500 mM salt, and 50% formamide to:

- 35 a) the mature polypeptide coding portion of SEQ ID NO: 1;

- b) the mature polypeptide coding portion of SEQ ID NO: 3;
- c) the mature polypeptide coding portion of SEQ ID NO: 5;
- 5 d) the mature polypeptide coding portion of SEQ ID NO: 7;
- e) the mature polypeptide coding portion of SEQ ID NO: 12;
- f) the polypeptide coding portion of SEQ ID NO: 14;
- 10 g) the polypeptide coding portion of SEQ ID NO: 16;
or
- h) the polypeptide coding portion of SEQ ID NO: 18.

4. The polynucleotide of Claim 3, comprising:

- 15 a) at least 35 contiguous nucleotides of the mature coding portion of SEQ ID NO: 1;
- b) at least 35 contiguous nucleotides of the mature coding portion of SEQ ID NO: 3;
- c) at least 35 contiguous nucleotides of the mature coding portion of SEQ ID NO: 5;
- 20 d) at least 35 contiguous nucleotides of the mature coding portion of SEQ ID NO: 7;
- e) at least 35 contiguous nucleotides of the mature coding portion of SEQ ID NO: 12;
- f) at least 35 contiguous nucleotides of the coding portion of SEQ ID NO: 14;
- 25 g) at least 35 contiguous nucleotides of the coding portion of SEQ ID NO: 16; or
- h) at least 35 contiguous nucleotides of the coding portion of SEQ ID NO: 18.

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5. An expression vector comprising the polynucleotide of Claim 1.

35 6. A host cell containing the expression vector of Claim 5, including a eukaryotic cell.

7. A method of making an antigenic polypeptide comprising expressing a recombinant polynucleotide of Claim 1.

5 8. A method for detecting a polynucleotide of Claim 1, comprising contacting said polynucleotide with a probe that hybridizes, under stringent conditions, to at least 25 contiguous nucleotides of:

- 10 a) the polynucleotide comprising the signal processed coding portion of SEQ ID NO: 1;
- b) the polynucleotide comprising the signal processed coding portion of SEQ ID NO: 3;
- c) the polynucleotide comprising the signal processed coding portion of SEQ ID NO: 5;
- 15 d) the polynucleotide comprising the signal processed coding portion of SEQ ID NO: 7;
- e) the polynucleotide comprising the signal processed coding portion of SEQ ID NO: 12;
- f) the polynucleotide comprising the coding portion of SEQ ID NO: 14;
- 20 g) the polynucleotide comprising the coding portion of SEQ ID NO: 16; or
- h) the polynucleotide comprising the coding portion of SEQ ID NO: 18;

25 to form a duplex, wherein detection of said duplex indicates the presence of said polynucleotide.

9. A kit for the detection of a polynucleotide of Claim 1, comprising a compartment containing a probe that hybridizes, under stringent hybridization conditions, to at least 17 contiguous nucleotides of a polynucleotide of Claim 1 to form a duplex.

10. The kit of claim 9, wherein said probe is detectably labeled.

11. A binding compound comprising an antibody binding site which specifically binds to:

- a) at least 17 contiguous amino acids from the signal processed form of SEQ ID NO: 2;
- 5 b) at least 17 contiguous amino acids from the signal processed form of SEQ ID NO: 4;
- c) at least 17 contiguous amino acids from the signal processed form of SEQ ID NO: 6;
- 10 d) at least 17 contiguous amino acids from the signal processed form of SEQ ID NO: 8;
- e) at least 17 contiguous amino acids from the signal processed form of SEQ ID NO: 13;
- f) at least 17 contiguous amino acids from SEQ ID NO: 15;
- g) at least 17 contiguous amino acids from SEQ ID NO: 17; or
- h) at least 17 contiguous amino acids from SEQ ID NO: 19.

20 12. The binding compound of Claim 11, wherein:

- a) said antibody binding site is:
 - 1) selectively immunoreactive with a polypeptide of the signal processed form of SEQ ID NO: 2;
 - 25 2) selectively immunoreactive with a polypeptide of the signal processed form of SEQ ID NO: 4;
 - 3) selectively immunoreactive with a polypeptide of the signal processed form of SEQ ID NO: 6;
 - 30 4) selectively immunoreactive with a polypeptide of the signal processed form of SEQ ID NO: 8;
 - 5) selectively immunoreactive with a polypeptide of the signal processed form of SEQ ID NO: 13;

6) selectively immunoreactive with a polypeptide of SEQ ID NO: 15;

7) selectively immunoreactive with a polypeptide of SEQ ID NO: 17;

5 8) selectively immunoreactive with a polypeptide of SEQ ID NO: 19; or

b) said binding compound is:

1) an antibody molecule;

2) a polyclonal antiserum;

10 3) detectably labeled;

4) sterile; or

5) in a buffered composition.

13. A method using the binding compound of Claim 11,
15 comprising contacting said binding compound with a
biological sample comprising an antigen, thereby forming a
binding compound:antigen complex.

14. The method of Claim 13, wherein said biological
20 sample is from a human, and wherein said binding compound
is an antibody.

15. A detection kit comprising said binding compound
of Claim 12, and:
25 a) instructional material for the use of said binding
compound for said detection; or
b) a compartment providing segregation of said
binding compound.

30 16. A substantially pure or isolated antigenic
polypeptide, which binds to said binding composition of
Claim 11, and further comprises at least 17 contiguous
amino acids from:

35 a) the signal processed polypeptide from SEQ ID NO:
2;
b) the signal processed polypeptide from SEQ ID NO:
4;

- c) the signal processed polypeptide from SEQ ID NO: 6;
- d) the signal processed polypeptide from SEQ ID NO: 8;
- 5 e) the signal processed polypeptide from SEQ ID NO: 13;
- f) SEQ ID NO: 15;
- g) SEQ ID NO: 17; or
- h) SEQ ID NO: 19.

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17. The polypeptide of Claim 16, which:

- a) comprises at least a fragment of at least 25 contiguous amino acid residues from a signal processed primate HDTEA84 protein;
- b) comprises at least a fragment of at least 25 contiguous amino acid residues from a signal processed primate HSLJD37R protein;
- c) comprises at least a fragment of at least 25 contiguous amino acid residues from a signal processed rodent RANKL protein; or
- 20 d) comprises at least a fragment of at least 25 contiguous amino acid residues from primate RANKL protein;
- e) is a soluble polypeptide;
- f) is detectably labeled;
- 25 g) is in a sterile composition;
- h) is in a buffered composition;
- i) binds to an sialic acid residue;
- j) is recombinantly produced, or
- 30 k) has a naturally occurring polypeptide sequence.

18. The polypeptide of Claim 17, which:

- a) comprises at least 17 contiguous amino acids of the signal processed SEQ ID NO: 2;
- 35 b) comprises at least 17 contiguous amino acids of the signal processed SEQ ID NO: 4;

- c) comprises at least 17 contiguous amino acids of the signal processed SEQ ID NO: 6;
- d) comprises at least 17 contiguous amino acids of the signal processed SEQ ID NO: 8;
- 5 e) comprises at least 17 contiguous amino acids of the signal processed SEQ ID NO: 13;
- f) comprises at least 17 contiguous amino acids of SEQ ID NO: 15;
- 10 g) comprises at least 17 contiguous amino acids of SEQ ID NO: 17; or
- h) comprises at least 17 contiguous amino acids of SEQ ID NO: 19.

19. A method of modulating a precursor cell physiology or function comprising a step of contacting said cell with:

- a) a binding compound which binds to said polypeptide of Claim 16;
- b) an HDTEA84 polypeptide;
- 20 c) an HSLJD37R polypeptide; or
- d) a RANKL polypeptide.

20. The method of Claim 19, wherein said contacting is in combination with a TNF family ligand, or an antagonist of said TNF family ligand.